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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,598	09/26/2003	Ulrich R. Bernier	0148.01	9892
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USDA, ARS, OTT 5601 SUNNYSIDE AVE RM 4-1159 BELTSVILLE, MD 20705-5131			EXAMINER CHOI, FRANK I	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/670,598

Applicant(s)

BERNIER ET AL.

Examiner

FRANK I. CHOI

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 43-49 and 51-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 43-49 and 51-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: The Amendment to the Specification (10/2/2006) does not replace the first line with the corrected reference to the priority applications but inserts the correction before the first line. As such, there are now two references to the 09/848,236 application. Please provide correction in which the sentence "This is a continuation of application serial number 09/848,236 filed 05/04/2001, which is incorporated by reference in its entirety" is deleted.

Appropriate correction is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 48 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. 6,800,279. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-12 contain combinations of attractants which fall within the scope of claim 1. The method of claim 11 of said patent discloses a compositions consisting of glycolic acid and acetone. The

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composition of claim 2 of said patent discloses mosquito attracting amounts of lactic acid and butanone. As such, it would be obvious to modify the composition claim into a method of attracting mosquitoes with said claim.

A request for abeyance of the double patenting rejection does not constitute a sufficient traverse of the double patenting rejection. Since the Applicant has neither otherwise traversed the rejection nor filed a terminal disclaimer, the double patenting rejection is maintained.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 43, 51 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the specific embodiments, i.e. those compounds or mixtures of compounds which were tested and found to be effective in attracting *Aedes aegypti*, *Aedes albopictus* and *Anopheles albimanus* does not reasonably provide enablement for the all compounds or mixtures of compounds with respect all arthropods, or even all mosquitos. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make/and or use the invention commensurate in scope with these claims. For instance, lactic acid is known to be a repellant to tsetse flies (See Voskamp et al., Abstract; Mihok et al., Abstract; Saini et al., Abstract). Further, different species of mosquitos are effected differently, i.e. - attracted, repelled or non-responsive, by various compounds, including compounds falling within the scope of Applicant's invention (See Takken et al. (1999), pgs 140-45; Schreck et al. (1990), pg. 409, Table 2; Kline et al. (1990), pg. 386-90).

Furthermore, even with respect to *Aedes aegypti*, altering the base structure of lactic acid has varying effects of the attractancy and/or repellancy of the lactic acid derivative to *Ac. aegypti* (See Carlson et al. (1973), pgs 329-331; Davis (1988), pg. 445, Table 1). As such, in light of the above, it appears that a skilled artisan would be required to do undue experimentation in order to make and/or use the invention commensurate in scope with the claims.

The Examiner has duly considered the Applicant's arguments but deems them unpersuasive.

Although the Applicant has amended the preamble to recite *Aedes aegypti*, *Aedes albopictus* and *Anopheles albinamans*, the preamble does not necessarily limit the claim to attracting the same. See e. g. *Jansen v. Rexall Sundown, Inc.*, 342 F.3d 1329, 1333, 68 USPQ2d 1154, 1158 (Fed. Cir. 2003)(In considering the effect of the preamble in a claim directed to a method of treating or preventing pernicious anemia in humans by administering a certain vitamin preparation to "a human in need thereof," the court held that the claims' recitation of a patient or a human "in need" gives life and meaning to the preamble's statement of purpose.). In that case, the body of the claim specifically referred to the population of patients in need of treatment there by limiting the claim to those patients in need of the claimed treatment set forth in the preamble. In this case, the body of the claim does not appear to need the preamble in order to be complete in that body of the claim does not specifically indicate that the mosquito attracting amounts refers to the species listed in the preamble. Thus, the claims still broadly encompass any mosquito attracting amount of lactic acid and butanone. As such, the rejection is maintained with respect to claims 43 and 44.

The Applicant has acknowledged the unpredictable nature of the art, as evidenced by Kline et al., in traversing the 35 USC 103 rejection of claim 51 (Remarks (11/30/2007), page 31). Claim 51 contains butanone which has been shown to be a mosquito repellant to more than one species of mosquito. The claims broadly encompass any mosquito attracting amount of the combination of lactic acid, butanone and dimethyl disulfide. As such, one of ordinary skill in the art would be required to do undue experimentation in order to determine what amounts would constitute a mosquito attracting amount for a given mosquito given the unpredictable nature of the art with respect to butanone.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Carlson et al. (Yellowfever Mosquitoes:Compounds Related to Lactic Acid that Attract Females).

Carlson et al. expressly discloses a composition containing glycolic acid and acetone (Pg. 330, Table 1).

The Examiner has duly considered the Applicant's arguments but deems them unpersuasive.

The use of the composition does not patentably distinguish the prior art from the claimed invention. The fact remains that a composition consisting acetone and glycolic acid was prepared. What occurred after the preparation, i.e. placing the glycolic acid/acetone composition on the walls of a sample tube and then passing nitrogen and carbon dioxide gas after the solution had evaporated, does not overcome this fact.

Claims 45,52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (Annals of the Entomological Society of America 1970) in view of Paganessi et al. (US Pat. 5,943,815).

Smith et al. teaches that the combination of lactic acid and carbon dioxide is an effective mosquito attractant (Pg. 766).

Paganessi et al. (US Pat. 5,943,815) teach that the combination of acetone with carbon dioxide is an effective attractant for mosquitoes (Column 2, lines 53-68, Column 3, lines 1-25).

Smith et al. discloses that the combination of lactic acid and carbon dioxide is an effective mosquito attractant. The difference between Smith et al. and the claimed invention is that Smith et al. does not expressly disclose compositions and methods of attracting mosquitoes consisting of lactic acid, acetone and carbon dioxide. However, the prior art amply suggests the same as Paganessi et al. discloses that the combination of acetone with carbon dioxide is an effective attractant for mosquitoes. As such it would have been well within the skill of and one ordinary skill in the art would have been motivated to combine lactic acid, acetone and carbon dioxide with the expectation that the same would be effective in attracting mosquitoes.

The Examiner has duly considered the Applicant's arguments but deems them unpersuasive.

The Supreme Court in *KSR International Co. v. Teleflex Inc.*, held the following:

(1) the obviousness analysis need not seek out precise teachings directed to the subject matter of the challenged claim and can take into account the inferences and creative steps that one of ordinary skill in the art would employ;

(2) the obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents;

(3) it is error to look only the problem the patentee was trying to solve-any need or problem known in the filed of endeavor at the time of invention and addressed by the prior art can provide a reason for combining the elements in the manner claimed;

(4) it is error to assume that one of ordinary skill in the art in attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem-common sense teaches that familiar items may have obvious uses beyond their primary purposes, and in many cases one of ordinary skill in the art will be able to fit the teachings of multiple patents together like pieces of a puzzle (one of ordinary skill in the art is not automaton);

(5) it is error to assume that a patent claim cannot be proved obvious merely by showing that the combination of elements was "obvious to try". *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396, 1397 (U.S. 2007).

Contrary to the Applicant's arguments, "obvious to try" is not excluded as a basis for obviousness. Further, there is no requirement the prior art must set forth a motivation to modify

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or combine the references. In any case, "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) (citations omitted) (Claims to a process of preparing a spray-dried detergent by mixing together two conventional spray-dried detergents were held to be prima facie obvious.). See also *In re Crockett*, 279 F.2d 274, 126 USPQ 186 (CCPA 1960) (Claims directed to a method and material for treating cast iron using a mixture comprising calcium carbide and magnesium oxide were held unpatentable over prior art disclosures that the aforementioned components individually promote the formation of a nodular structure in cast iron.); and *Ex parte Quadranti*, 25 USPQ2d 1071 (Bd. Pat. App. & Inter. 1992) (mixture of two known herbicides held prima facie obvious). Since as indicated the compositions are each taught to be effective for attracting mosquitoes, it would have been obvious to combine the same with the expectation that the combination would be effective in attracting mosquitoes.

Therefore, the claimed invention, as a whole, would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, because every element of the invention has been collectively taught by the combined teachings of the references.

Claims 46, 47, 53, 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (Annals of the Entomological Society of America 1970) in view of Wilson et al. (US Pat. 4,818,516).

Smith et al. teaches that lactic acid and the combination of lactic acid and carbon dioxide are effective mosquito attractants (Pg. 766).

Wilson et al. teaches that dimethyl disulfide is effective in attracting mosquitoes (Column 8, lines 44-60).

Smith et al. teaches that lactic acid and the combination of lactic acid and carbon dioxide are effective mosquito attractants. The difference between Smith et al. and the claimed invention is that Smith et al. does not expressly disclose compositions or methods for attracting mosquitoes consisting of lactic acid and dimethyl disulfide or lactic acid, dimethyl disulfide and carbon dioxide. However, the prior art amply suggests the same. Wilson et al. discloses that dimethyl disulfide is known to be an attractant for mosquitoes. As such, it would have been well within the skill of and one of ordinary skill in the art would have been motivated to modify the prior art as above with the expectation that the combination lactic acid and dimethyl disulfide and the combination of lactic acid, dimethyl disulfide and carbon dioxide would be effective in attracting mosquitoes. See *In re Kerkhoven*, 205 USPQ 1069, 1072 (CCPA 1980); *Ex parte Quadranti*, 25 USPQ2d 1071 (Bd. Pat. App. & Inter. 1992).

The Examiner has duly considered the Applicant's arguments but deems them unpersuasive for the same reasons as above.

Therefore, the claimed invention, as a whole, would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, because every element of the invention has been collectively taught by the combined teachings of the references.

Claims 49,55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (Annals of the Entomological Society of America 1970) in view of Carlson et al. (Yellowfever Mosquitoes:Compounds Related to Lactic Acid that Attract Females).

Smith et al. teaches that lactic acid and that the combination of lactic acid and carbon dioxide is an effective mosquito attractant (Pg. 766).

Carlson et al. teaches that lactic acid is an effective mosquito attractant and that glycolic acid in combination with carbon dioxide is an effective mosquito attractant (Pg. 330, Table 1, pg. 331).

Smith et al. teaches that lactic acid and the combination of lactic acid and carbon dioxide are effective mosquito attractants. The difference between Smith et al. and the claimed invention is that Smith et al. does not expressly disclose compositions and methods consisting of glycolic acid, carbon dioxide and lactic acid.. However, the prior art amply suggests the same Carlson et al. disclose that lactic acid and glycolic acid and carbon dioxide are known in the art to attract mosquitoes. As such, it would have been well within the skill of and one of ordinary skill in the art would have been motivated to modify the prior art as above with the expectation that the combination of glycolic acid, carbon dioxide and lactic acid would be effective in attracting mosquitoes. See *In re Kerkhoven*, 205 USPQ 1069, 1072 (CCPA 1980); *Ex parte Quadranti*, 25 USPQ2d 1071 (Bd. Pat. App. & Inter. 1992).

The Examiner has duly considered the Applicant's arguments but deems them unpersuasive for the same reasons as above.

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Therefore, the claimed invention, as a whole, would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, because every element of the invention has been collectively taught by the combined teachings of the references.

Conclusion

A facsimile center has been established in Technology Center 1600. The hours of operation are Monday through Friday, 8:45 AM to 4:45 PM. The telecopier number for accessing the facsimile machine is 571-273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Choi whose telephone number is (571)272-0610. Examiner maintains a compressed schedule and may be reached Monday, Tuesday, Thursday, Friday, 6:00 am – 4:30 pm (EST).

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Johann R. Richter, can be reached at (571)272-0646. Additionally, Technology Center 1600's Receptionist and Customer Service can be reached at (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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August 21, 2008

/Johann R. Richter/
Supervisory Patent Examiner, Art Unit 1616